REVIEW FOR EXAMINATION NO.1

Examination No. 1 will be given during class on Wednesday, February 11, 2004 from 9:05am to 9:55am. It will last for 55 minutes and is closed book. One page of notes is permitted (front and back) and if relationships you need are not available, ask your proctor. The exam will consist of approximately 4 problems. Below is a list of the material for which you are responsible.

Output Stages
Emitter and source follower
- Transfer characteristics, power output and efficiency, input/output resistance
- Distortion
Push-Pull stages – BJT and MOS and BiCMOS
- Class B and Class AB
- Transfer characteristics, power output and efficiency, input/output resistance
- Distortion
Quasi-complementary output stages
Overload protection
Common source configuration with error amplifiers

Frequency Response
Frequency response of single-stage amplifiers
- Miller approach to finding –3dB frequency
- Exact analysis for two poles
- Dominant pole approach to finding –3dB frequency
Frequency response of the differential amplifier
- Differential, common mode and CMRR
Frequency response of voltage buffers
- Emitter follower
- Source follower
- Voltage gain, input impedance, output impedance
Frequency response of current buffers
- Current gain
Multistage amplifier frequency response
- Dominant pole approximation
- Open-circuit (zero value) time constant analysis
- Short-circuit time constant analysis